Executive Summary

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This proposal requests funding to build upon the Idaho Public Health Districts' tobacco cessation program, serving pregnant women, by piloting a 'best practice' program in South Central Public Health District called *Nurse Family Partnership*. The program has been studied in randomized-control trials for over 30 years and is currently being implemented in 26 states. A nurse home visiting program, it targets first-time pregnant low-income mothers through their child's second birthday and has **demonstrated a 25% reduction in prenatal smoking, a 59% reduction in marijuana use, a 42% reduction in other drug use, and a 79% reduction in preterm delivery (Nurse Family Partnership, 2008).** By addressing the underlying factors affecting maternal smoking (including poverty, limited education, depression, and poor social support system), this comprehensive program facilitates prenatal tobacco and drug use cessation while helping mothers stay quit postpartum. It also addresses the problem of second-hand smoke exposure in the home of program participants and their children.

In addition to program outcomes related to tobacco and drug use, Nurse Family Partnership has demonstrated other impressive outcomes including some that are intergenerational:

Pregnant/parenting mother

- 31% fewer closely spaced pregnancies
- 20% reduction in welfare use
- 83% increase in mother's labor force participation by child's fourth birthday
- 61% fewer arrests
- 98% fewer days in jail

Infant/child

- 56% reduction in emergency room visits for accidents and poisonings
- 67% reduction in behavioral/intellectual problems at child age six
- 48% reduction in child abuse (measured at child age 15)
- 59% reduction in arrests of child (measured at child age 15)

Ranked highest in terms of cost return among youth substance abuse and teen pregnancy prevention, pre-kindergarten, child welfare, and youth development programs, there is an **estimated cost savings of \$17,180 per family served with at least \$2.88 returned for every dollar invested in the program** (Washington State Institute of Public Policy, 2004).

The target population for this proposed pilot is 100 Medicaid-eligible, first-time pregnant mothers and their families living in the eight counties served by South Central Public Health District. The program cost is approximately \$4700/year/family with a total program budget of \$467,733. Local community funds will cover one-half of the pilot. South Central Public Health District is requesting the Millennium Fund match local funds with \$228,317.

Proposal

Organizational Background

Chapter 4, Title 39, Idaho Code is the Public Health Districting Law (1970). The intent of the legislature in creating the seven public health districts was for public health services to be locally controlled and governed. They are single purpose districts that receive funding from four sources: counties, State General Fund, State Millennium Fund, and fees/contracts. Each district is governed by a local Board of Health appointed by county commissioners from that district who define the public health services to be offered based on the needs of the local population. While Idaho Code stipulates that the districts provide public health education, physical health, environmental health, and public health administration, it does not restrict the districts solely to these categories.

Idaho's Public Health Districts share a common vision and mission. The vision is "Healthy People in Healthy Communities." The mission is to:

- Prevent disease, injury, disability, and premature death;
- Promote healthy lifestyles; and
- Protect and promote the health and quality of Idaho's environment.

South Central Public Health District (SCPHD) is applying as a pilot site to implement Nurse Family Partnership (NFP) for Idaho. Ranking fourth in size and fifth in population of the seven public health districts, SCPHD provides services to five rural counties (Blaine, Gooding, Jerome, Minidoka, and Cassia), two frontier counties (Camas and Lincoln), and one urban county (Twin Falls) serving a total population of 173,626 (Idaho Vital Statistics 2006, 2007). *Please see Appendix A for SCPHD Board Members and agency organizational chart.*

<u>Purpose of Request: Goals and Objectives</u>

In 2006, 13.7% of Idaho women reported smoking during pregnancy (Idaho Vital Statistics 2006, 2007). It is well known that smoking in pregnancy has very negative consequences for the fetus—doubling the risk for low birth weight and causing 14% of preterm deliveries and 10% of infant deaths (Public Health Service, 2000). More recently, research has suggested that maternal smoking may cause complications that extend beyond the perinatal period causing increased risk for SIDS and changes in infant neurodevelopment leading to later antisocial behavior, including conduct disorder and delinquency (Wakschlag, et al, 2002).

For these reasons, pregnant women are a target population for the Public Health Districts' Tobacco Cessation Program. To date, it has served 2,164 pregnant women with 1,338 completing the program. Of these, 609 quit tobacco use by program end for a 28% quit rate. This rate is lower than the Districts' quit rate for youth (45%) and adults (35%). Of further concern, the two-month follow-up calls to a subsample of participating mothers reveal approximately two-thirds have started smoking again (Center for Health Policy, Boise State University, 2008). These statistics are not surprising because the Districts' Tobacco Cessation Program primarily serves WIC mothers who are low-income and more likely to smoke. Research indicates that maternal smoking is a marker for other risks including:

- Lack of basic necessities such as transportation, food, and adequate housing.
- 4x increase in history of drug/ETOH use.
- 2x increase in history of (and current) physical and sexual abuse, STDs, depression, and other psychiatric disorders (Public Health Service, 2000).

Further, research suggests that smokers with past history of depression are more likely to:

- have post-cessation depression,
- have more severe nicotine withdrawal symptoms, and
- be high risk for relapse (El-bastwaissi AY et. al., 2003).

In light of the research, it is not surprising that WIC (and other low-income) mothers who smoke have a more difficult time quitting and staying quit. The research also tells us that they have more success with cessation the more extensive the program. Inpatient residential programs are most effective producing 45-50% quit rates followed by classes with medication producing 25-35% quit rates (Public Health Service, 2000). Counseling effectiveness also increases with treatment intensity with two types of counseling recommended: 1) Practical (problem solving, skills training); and 2) social support (delivered as part of treatment) (U.S. Department of Health and Human Services, 2008).

The NFP program provides a vehicle for providing the enhanced counseling and social support needed by these high risk families. Through weekly home visits, the NFP nurses can provide or reinforce tobacco cessation curriculum while addressing the underlying factors contributing to maternal smoking such as depression, drug and physical abuse, and lack of basic life necessities. The NFP nurse can provide continuous support through the critical time after the baby is born to help the mother stay quit postpartum. In addition, the NFP nurse can verify the self-reported smoking status of the mother and any other members in the household. This allows her to educate about the risks of second-hand smoke to health of mother and child and to refer household members to tobacco cessation classes (or encourage them to smoke outside).

Short-Term Objectives

- I. By June 30, 2010, address underlying factors for maternal smoking and drug use (such as lack of basic necessities and social support, depression, physical abuse, etc.) for 100 families by implementing "best practice" program NFP pilot in SCPHD.
- II. By June 30, 2010, reinforce or provide *Idaho Prenatal Smoking Cessation Program* for tobacco using pregnant women served through NFP pilot in order to improve and sustain tobacco quit rates during pregnancy and postpartum.
- III. By June 30, 2010, assess and provide necessary intervention to prevent second-hand smoke exposure of families served through NFP pilot.
- IV. By June 30, 2010, provide screening, referral to treatment, and support for substance abusing pregnant women served through NFP pilot.

Long-Term Objectives

- I. By September 2012, program outcomes will demonstrate improved and sustained tobacco and substance use quit rates along with overall improved health and well-being of program participants and their children.
- II. By September 2012, the NFP three-year pilot will have been successfully completed and a plan will be in place for program continuation.
- III. By September 2012, lessons learned from the pilot will be shared with the other Idaho Public Health Districts to facilitate NFP program implementation in their jurisdictions.

Organizational Capacity

Idaho's Public Health Districts offer an ideal base on which to build an infrastructure for implementing and sustaining NFP statewide. They provide services in all 44 Idaho counties and are often the only health care provider in the most frontier counties. Even more important, provision of the NFP program is consistent with two *Essential Public Health Services*:

- Mobilize community partnerships to identify and solve health problems
- Link people to needed health services and assure the provision of health care when otherwise unavailable (Public Health Districts of Idaho, 2007)

The Public Health Districts are stepping up to provide NFP because there is no statewide prenatal case management program for high risk pregnant women and because they feel they are the most appropriate service provider. Their Directors and Boards of Health are well versed in the NFP model. At the May 30, 2008, Association of Board of Health meeting, they passed a unanimous resolution to "Support Evidenced-Based Home Visitation in Idaho". *Please see Resolution Appendix B*

Public Health District staff is well known and respected in their communities, and they facilitate many of the local coalitions and task groups. As a result, the Public Health Districts are well suited to facilitate the collaborative community process necessary for developing needed infrastructure and funding to support NFP implementation. In addition, they administer the WIC program which will be a key referral source for NFP. Lastly, all Districts employ public health nurses with experience in home visitation. This is central since nurses are the service provider for the NFP model.

Of the seven Public Health Districts, SCPHD has had the most extensive involvement with the NFP program. The project director for this proposal, Maggi Machala, MPH, RN, began working with the NFP national office in March 2005. Since then, she has educated local and state policy makers about the program and written grants to help fund it. She has 32 years of maternal/child health experience, including eight years coordinating the Idaho prenatal case management program for at risk women that was defunded in 1993. Ms. Machala has lived in Idaho for 28 years and is familiar with the challenges of providing services in rural/frontier areas. She has also written, directed, and evaluated a four-year, \$400,000 Drug Free Community grant through the office of Juvenile Justice and Delinquency Prevention. Ms. Machala will serve as the required .5 FTE nurse supervisor for this NFP pilot. She will hire four FTE registered nurses (bachelor preferred) to conduct the program and a .5 FTE clerical support position for data entry.

Process

NFP is a home visitation program where specially trained registered nurses make home visits to low-income mothers who are pregnant for the first time. Ideally by the 16th week of pregnancy, a nurse follows the family until the child is two years of age using evidenced-based curriculum. The program provides 14 home visits during pregnancy, 28 visits during infancy, and 22 during toddlerhood.

Although the program is designed to serve those who can benefit most (low-income first-time parents) each community implementing the program can designate age and income criteria for their site. Nationally, the average NFP client age is 20. The target population for this pilot will be Medicaid-eligible first-time parents who live in south central Idaho. It is anticipated that a large percentage of these mothers will be teenagers; and mothers with tobacco and drug use will be prioritized. In 2006, the region had 984 births to first-time mothers of which 312 were Medicaid eligible (Idaho Vital Statistics 2006, 2007). NFP is a voluntary program. National experience demonstrates there is a 30-50%

participation rate of the eligible population. This indicates there should be an adequate number of eligible mothers to provide the 100 families required by NFP for a program pilot.

The National NFP office provides training and support for local site staff and assures strict program fidelity. NFP nurses will also receive training in the District's tobacco cessation curriculum for pregnant women and teach the curriculum or reinforce it at each home visit with clients who are smokers or have smokers in the home. Nurses will also assess second-hand smoke exposure at each home visit and provide education and referral.

Work Plan

- A. By June 30, 2009, the Project Director will conduct a collaborative community process in south central Idaho to: 1) map local maternal/child health continuum of care; 2) educate about NFP and negotiate its position in local services; and 3) solicit support to fund, refer to the program, and develop a seamless continuum of care plan.
- B. By June 30, 2009, the Project Director will have applied to the national NFP office and been accepted as a site to implement a three-year NFP pilot serving 100 families.
- C. By October 1, 2009, the Project Director will work with state universities and colleges to recruit/hire the equivalent of four FTE registered nurses (RNs) required to conduct a three-year NFP pilot.
- D. By December 31, 2009, Project Director and RNs will receive the required initial training.
- E. By December 31, 2009, Project Director will recruit/hire the .5 FTE clerical position required to conduct a three-year NFP pilot.
- F. By January 2010, NFP nurses will begin case managing eligible families per protocols working up to a caseload of 25 families/nurse and serving 100 families district-wide during the three-year pilot.
- G.. Beginning January 2010, on each home visit, NFP nurses will include an assessment of client tobacco/drug use and exposure of family to second-hand smoke and provide intervention per protocol.
- H. Beginning January 1, 2010, NFP staff will collect/enter required program evaluation data, review summary findings, and submit required reports.
- I. By June 30, 2010, Project Director will have secured necessary funding and have a plan in place to continue the next two years of the Nurse Family Partnership pilot.

Evaluation Plan

The primary evaluation questions for this pilot project are:

- 1). Do low-income mothers, served by the NFP program, have increased tobacco cessation and drug use quit rates and do they sustain those rates postpartum?
- 2) Do low-income mothers, served by the NFP program, decrease their exposure and that of their children to second-hand smoke at home?
- 3) Can the NFP program be successfully implemented in Idaho, and what are the overall benefits to participant and community health?

The NFP program has been studied for over 30 years in randomized controlled studies and enforces strict model fidelity with program implementation. Local sites receive standardized training and technical support. NFP nurses use set curriculum and collect standardized data at each home visit. This data is entered onto computer by the clerical support person and then sent to the NFP national office in Denver, Colorado, where it is aggregated and analyzed. Summary data reports are regularly sent to sites allowing local program evaluation and outcome comparison with other sites throughout the U.S.

Tobacco use is routinely collected at NFP program entry, at 36 weeks of pregnancy, and at the child's first birthday. However, NFP allows program sites to collect additional data and run special reports. For the proposed pilot, NFP nurses will assess maternal smoking, drug use, and second-hand smoke exposure in the home at each visit. Nurses will also document all interventions around tobacco and drug use for each visit.

NFP evaluation reports will be shared with program staff, SCPHD Board of Health, other program funding entities, community policy makers, and the other Public Health Districts. They will be used for program improvement, needed policy change, fund-raising, and informing other communities wanting to implement the program. Standard NFP evaluation reports include the following program indicators:

Pregnancy Health

Gestational age prenatal care began

UTIs, STIs, and other infections during pregnancy

Adequate weight gain

Substance use (cigarette, alcohol, marijuana, cocaine, and other substances)

Experience of intimate partner violence

Government assistance use during pregnancy (number of months)

Birth Outcomes

Prematurity Low birth weight NICU (number of days)

Child Health and Development

Breastfeeding

Potential for developmental delay

Language development

Immunizations

Lead testing

ER visits and hospitalizations for injury and ingestion

Referrals to social services

Maternal Life Course

Subsequent pregnancies

Subsequent births and outcomes for those births

Education

Work force participation

Marital status

Government assistance use

<u>Sustainability</u>

Nationally, NFP is funded by multiple sources in each community including Medicaid targeted case management, TANF, Title V Block Grant, juvenile justice, local foundation, and county general funds. In Colorado, North Dakota, and California, Tobacco Settlement dollars have been used.

SCPHD is committed to implementing NFP in the region. It is shifting \$105,183 to support program implementation and has written a Twin Falls Health Trust grant for \$93,000. SCPHD is confident it can leverage the remaining balance through hospital foundations, substance prevention/treatment grants, etc., if the Millennium Fund will match one-half of the program cost.

Long term, SCPHD feels that improved health outcomes and cost savings will galvanize support for continued program funding. Ultimately, Medicaid targeted case management may be pursued once the program is implemented statewide.

Budget

Total budget cost for the proposed NFP pilot is \$467,733. Local funds will pay for \$239,416 of the pilot or 51%. SCPHD is requesting that the Millennium Fund cover \$228,317, or 49% of the costs.

As has been found nationally, approximately 70% of program costs are for nurse salaries (4 FTE and .5 FTE nurse supervisor) and benefits. The Project Director will serve as the .5 FTE nurse supervisor and spend an additional .25 FTE managing the program (which includes grant writing and other fund raising, program outreach, and education). A .5 FTE clerical position provides program data entry.

Operating expenditures include: NFP Partnership services of technical assistance and program evaluation from the national NFP office; two required first-year trainings/materials for nurses and supervisor at national NFP office in Denver, Colorado; local travel costs for nurse family home visits and required nurse supervisor oversight; and miscellaneous office supplies, phone costs, insurance, and SCPHD indirect costs at 29.18% of salary (*Project Budget* and *Personnel Costs Detail* Tables follow).

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Project Budget Other Funding Sources

| oject Budget Other Funding Sources | | | | | | | | |
|--------------------------------------|------------|---------|---------|------|------|---------|--|--|
| | Millennium | | Local | | | | | |
| | Fund | SCPHD | Grants | | | TOTAL | | |
| Personnel Costs | | | | | | | | |
| Salaries | 119,163 | 25,000 | 94,163 | | | 238,326 | | |
| Benefits | 50,709 | 10,639 | 40,070 | | | 101,418 | | |
| Total Personnel Costs | 169,872 | 35,639 | 134,233 | 0 | 0 | 339,744 | | |
| Operating Expenditures | | | | | | | | |
| 1. Local Travel | 2,241 | 0 | 0 | | | 2,241 | | |
| 2. Family Visits | 12,285 | 0 | 0 | | | 12,285 | | |
| 3. Training and Materials | 7,648 | 0 | 0 | | | 7,648 | | |
| 4. Photocopies | 250 | 0 | 0 | | | 250 | | |
| 5. Office Supplies | 100 | 0 | 0 | | | 100 | | |
| 6. Nurse Family Partnership Services | 34,118 | 0 | 0 | | | 34,118 | | |
| 7. Risk Reduction Insurance | 350 | 0 | 0 | | | 350 | | |
| 8. Phone and Data Lines | 1,293 | 0 | 0 | | | 1,293 | | |
| 9. State Controllers Office Charges | 160 | 0 | 0 | | | 160 | | |
| 10. Indirect (29.18% of Salary) | 0 | 69,544 | 0 | | | 69,544 | | |
| Total Operating Expenditures | 58,445 | 69,544 | 0 | 0 | 0 | 127,989 | | |
| Capital Outlay | | | | | | | | |
| 1. N/A | 0 | 0 | 0 | | | 0 | | |
| 2. | | | | | | 0 | | |
| 3. | | | | | | 0 | | |
| 4. | | | | | | 0 | | |
| 5. | | | | | | 0 | | |
| 6. | | | | | | 0 | | |
| 7. | | | | | | 0 | | |
| Total Capital Outlay | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Trustee Benefit Payments | 0 | 0 | 0 | | | | | |
| Total T/B Payments | 0 | 0 | 0 | | | 0 | | |
| TOTAL BUDGET | 228,317 | 105,183 | 134,233 | 0 | 0 | 467,733 | | |
| % TOTAL | 48.8% | 22.5% | 28.7% | 0.0% | 0.0% | 100.0% | | |

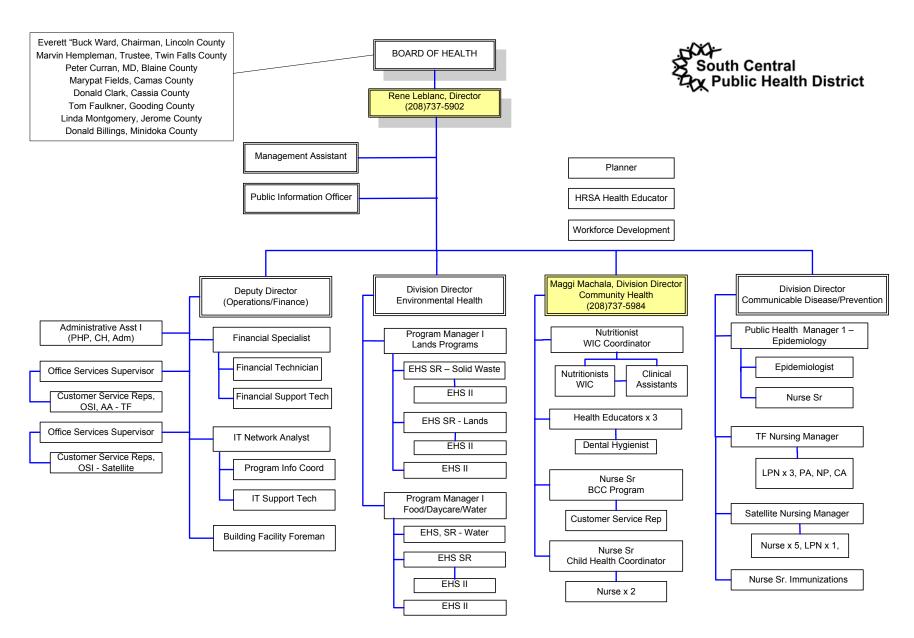
Grant Applicant and Project Name: South Central Public Health District, Nurse Family Partnership Pilot

Personnel Costs Detail Budget

Other Funding Sources

| | | The state of the s | | | | | | | | | |
|-----------------------------|---------------|--|--------|--------------|---|---|---------|--|--|--|--|
| Position Title | Staff Time | Millennium Fund | SCPHD | Local Grants | | | Total | | | | |
| Project Director/Supervisor | 0.75 | 26,190 | 0 | 26,190 | | | 52,380 | | | | |
| 2. Nurses (4) | 4.00 | 134,920 | 35,639 | 99,281 | | | 269,839 | | | | |
| 3. Clerical | 0.50 | 8,763 | 0 | 8,763 | | | 17,525 | | | | |
| 4. | | | | | | | 0 | | | | |
| 5. | | | | | | | 0 | | | | |
| 6. | | | | | | | 0 | | | | |
| 7. | | | | | | | 0 | | | | |
| TOTAL | 5.25 | 169,872 | 35,639 | 134,233 | 0 | 0 | 339,744 | | | | |

Appendix A



Appendix B

RESOLUTION TO SUPPORT EVIDENCE-BASED NURSE HOME VISITATION¹ IN IDAHO

WHEREAS, nurse home visitation programs promote the well-being of mothers and their children; and

WHEREAS, Nurse Family Partnership (NFP) is an evidence-based, nurse home visitation program that improves the health, well-being, and self sufficiency of low-income, first-time parents and their children; and

WHEREAS, home visitation nurses help women improve their health behaviors related to substance abuse and nutrition, significant risk factors for pre-term delivery, low birth weight, and infant neuro-developmental impairment²; and

WHEREAS, these improvements include reductions in preterm delivery for women who smoke; reductions in high-risk pregnancies as a result of birth-spacing; and children's cognitive, social, and behavioral skills and development³; and

WHEREAS, nurse home visitation programs have demonstrated improvement in the overall well-being of the family. These improvements include increased maternal employment and economic self-sufficiency; increased presence of the father in the household; reduced child abuse and neglect; reduced maternal and child arrests; and reduced behavioral and intellectual problems among children at age six⁴;

THEREFORE BE IT RESOLVED that the Idaho Association of District Boards of Health supports the expanded development and maintenance of evidenced-based home visitation programs; and

BE IT FURTHER RESOLVED that the Idaho State Legislature support policies that give the Public Health Districts of Idaho the capacity to establish nurse home visitation programs and to provide for reimbursement for services delivered through these programs.

Adopted by the Idaho Association of District Boards of Health May 30, 2008

⁴ Ibid.

¹ National Association of County & City Health Officials (NACCHO), Statement of Policy 07-13, retrieved February 28, 2008 from http://www.naccho.org

² Ibid

³ Nurse-Family Partnership, Research Evidence, retrieved on November 21, 2007 from http://www.nursefamilypartnership.org